

In re Patent Application of:

ENGLAND

Serial No. **09/825,132**

Filing Date: **APRIL 2, 2001**

REMARKS

The notice of allowable subject matter in Claims 3, 4, 7, 9-12, 15, 16 and 19 in Items 5 and 6 on page 7 of the outstanding Office Action is gratefully appreciated. However, in view of the manner in which the claims have been amended to eliminate the indefiniteness raised in the outstanding Office Action and to more concisely define Applicant's invention, it is believed that all of the claims remaining in the application are in condition for allowance. Reconsideration of this application, accordingly, in light of the foregoing amendments and following remarks is respectfully requested.

In order to provide an orderly discussion of the issues, the objections and grounds of rejection raised in the outstanding Office Action will be addressed in the order presented.

The initial objection is the requirement that Figures 1, 3 and 4 be designated with a legend such as "Prior Art". In response to this requirement, enclosed, please find a replacement sheet of drawings, labeled as such, containing Figures 1-4, each of which is designated parenthetically as Prior Art. It is believed that these changes comply with the requirement set forth in the outstanding Office Action and approval of the replacement sheet for entering into the application is, accordingly, earnestly solicited.

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Looking now at the objections to the claims, the initial objection, in Item 2 at the bottom of page 2 of the outstanding Office Action, objects to the use of the phrases "signal processor" or "baseband signal processor" which are not described in the specification.

Applicant understands the objection to be a lack of antecedent basis for terminology in the claims in the descriptive text of the specification. To obviate this objection, line 13 on page 13 of the specification has been amended to recite "a baseband signal processor in the form of a bit synchronizer 90". It is believed that this eliminates the initial objection raised and withdrawal of that objection is, accordingly, earnestly solicited.

As to the remaining objections, and the suggestions for claim language change, the claims been amended essentially word for word as proposed in the Office Action to comply with the requirements made, but with the following exceptions. The suggestion to change "process signals" to "processing said signals" in Line 7 of Claim 8 is not understood. The claim recites a plurality of carrier demodulators respectively coupled to process signals representative of signal outputs of said plurality of generally panel-configured phased array antennas. The claim is both accurate and grammatically correct. Withdrawal of the objection is respectfully requested.

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Applicant does not understand the objection to line 3 of Claim 10, since the phrase "prime number" is not found therein.

It is believed that the remaining corrections are self-evident, as they comport with the suggestions made in the Office Action. Withdrawal of the objections in Item 2 on pages 2-4 of the outstanding Office Action is, accordingly, earnestly solicited.

The rejection of Claims 3, 4, 6, 7 and 11-19, under the second paragraph of 35 U.S.C. § 112, for the reasons set forth in Items 3, a.-g. on pages 4 and 5 of the outstanding Office Action, is respectfully traversed.

As can be seen from the foregoing amendments to the claims, the major portions of Claims 3, 9 and 15 have been incorporated into their parent independent Claims 1, 8 and 13. In the course of incorporating this claim language of the dependent claims into the independent claims, care has been taken to avoid the lack of antecedent basis objections raised under the second paragraph of 35 U.S.C. § 112. For example, the insertion to the end of Claim 1, recites the fact that "each of said carrier demodulators is operative to regenerate a coherent carrier reference signal for demodulating said downconverted signal from each of said plurality of antennas, and is operative to convert a carrier-demodulated signal to soft decision information signals." The phrase "the resulting" is not found in this claim. The same is true of Claim 9.

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The objection to the use of the definite article "the" in modifying the term "antenna" in Item 3b is believed to have been obviated by referring to the antenna with the indefinite article "an".

The objection to line 2 of Claim 12 is respectfully traversed. Attention is directed to the description in the specification, specifically page 17, lines 15-28, which provide antecedent basis support for what is recited in Claim 12. The claim is accurate.

The rejection of Line 1 of Claim 13 and Lines 4 and 5 of Claims 17 and 19, respectively is believed to have been obviated by referring to "said signal". The conclusion that it is a common signal is correct.

The objection in Item 3f is respectfully traversed. The initial portion of Claim 13 recites a method of deriving information from a signal. It is that signal which is incident upon the plurality of antennas that are capable of receiving that signal. The claim is accurate.

In view of the foregoing, withdrawal of the rejection of the claims under the second paragraph of 35 U.S.C. § 112 is respectfully requested.

The rejection of Claims 1, 2, 5, 6, 8, 13, 14, 17 and 18 under the provisions of 35 U.S.C. § 102 for the reasons advanced on pages 5-7 of the outstanding Office Action is respectfully traversed.

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As can be seen from the foregoing amendments to the claims, each of independent Claims 1, 8 and 13 has been amended to incorporate subject matter of objected to dependent claims, specifically subject matter of Claims 3, 9 and 15 respectfully. However, these claims have been more generally recited without limiting the carrier demodulator to include a matched filter detector. That recitation remains in Claims 3, 9 and 15 in their currently amended form.

The addition to each of independent Claims 1, 8 and 13 is the fact that each of the carrier demodulators is operative to regenerate a coherent carrier reference signal for demodulating the downconverted signal from each of the plurality of antennas and is operative to convert the carrier-demodulated signal to soft decision information signals. In addition, the signal processor is operative to combine the soft decision information signals to produce a composite baseband signal and to process the composite baseband signal to derive baseband decision information signals. These signals are then feed back to control the internal operations of the carrier demodulators.

Applicant has inferred that it was recognized in the outstanding Office Action, that the system described in the patent to Keskitalo et al 6345188 contains no such signal processing circuitry or demodulator circuitry. What actually takes place in Keskitalo et al is the use of various signals, such as the composite baseband output, to cause other parts of the system to provide "optimized" inputs to the demodulators.

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In contrast, the present invention combines the outputs of the demodulators to provide a baseband information signal which is fed back to control the internal operation of the demodulators; in Keskitalo et al, signals are processed to control what goes into the demodulators but not to control the internal operation of the demodulators themselves. As such, with the foregoing amendments to each of the independent Claims 1, 8 and 13, now more particularly reciting the Applicant's invention, it is believed that the present application is in condition for allowance. Favorable reconsideration of this application and a notice thereof are, accordingly, earnestly solicited.

Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 08-0870 and please credit any excess fees to such deposit account.

Respectfully submitted,



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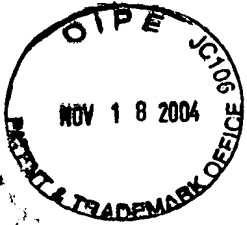
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In the Drawings: /

Attached is replacement drawing sheet 1/3 as shall be explained in the following remarks.